WHAT IS CLAIMED IS:

1. A method of manufacturing a superconducting quantum interference type magnetic fluxmeter, comprising:

forming a conductive pattern on an outer surface of a first cylindrical ceramic substrate;

electrophoretically depositing high-temperature superconducting fine particles and/or high-temperature superconducting precursor fine particles on the conductive pattern; and

subjecting the first cylindrical ceramic substrate to a heat treatment to sinter the fine particles, thereby forming an input coil and a pickup coil integrated with the input coil.

2. The method according to claim 1, wherein the conductive pattern is formed by forming a conductive paste layer on a surface of the ceramic substrate and subjecting the conductive paste layer to a heat treatment.

3. The method according to claim 1, wherein the conductive pattern is formed by plating a conductive material or vapor deposition of a conductive material.

4. The method according to claim 1, wherein the conductive pattern contains silver as its main component.

5. The method according to claim 1, by further comprising: forming a conductive layer on an inner

surface of an upper section of the first cylindrical ceramic substrate, electrophoretically depositing high-temperature superconducting fine particles and/or high-temperature superconducting precursor fine particles on the conductive layer, and subjecting the first cylindrical ceramic substrate to a heat treatment to sinter the fine particles, thereby forming a first magnetic shield layer on the inner surface of the upper section of the first cylindrical ceramic substrate.

6. The method according to claim 5, wherein the conductive layer is formed by forming a conductive paste layer on a surface of the ceramic substrate and subjecting the conductive paste layer to a heat treatment.

7. The method according to claim 5, wherein the conductive layer is formed by plating a conductive material or vapor deposition of a conductive material.

8. The method according to claim 5, wherein the conductive layer contains silver as its main component.

9. The method according to claim 1, by further comprising:

placing the pickup coil such that a distal end portion thereof is inserted within a lower end portion of a magnetic shield tube having a second high-temperature superconductor shield layer on an outer surface thereof; and

inserting a high-temperature superconducting

quantum interference type element from an upper end portion of the magnetic shield tube, thereby magnetically coupling the input coil and the high-temperature superconducting quantum interference type element,

wherein:

the magnetic shield tube is obtained by forming a conductive layer on an outer surface of a second cylindrical ceramic substrate having an inner diameter larger than an outer diameter of the pickup coil, electrophoretically depositing high-temperature superconducting fine particles and/or high-temperature superconducting precursor fine particles on the conductive layer, and subjecting the second cylindrical ceramic substrate to a heat treatment to sinter the fine particles, thereby forming a second high-temperature superconducting shield layer.

10. The method of manufacturing a superconducting quantum interference type magnetic fluxmeter according to claim 9, wherein the conductive layer is formed by forming a conductive paste layer on a surface of the ceramic substrate and subjecting the conductive paste layer to a heat treatment.

11. The method of manufacturing a superconducting quantum interference type magnetic fluxmeter according to claim 6, wherein the conductive layer is formed by plating a conductive material or vapor deposition of a conductive material.

12. The method of manufacturing a superconducting quantum interference type magnetic fluxmeter according to claim 6, wherein the conductive layer contains silver as its main component.

13. The method according to claim 9, by further comprising: forming a conductive layer on an inner surface of an upper section of the first cylindrical ceramic substrate, electrophoretically depositing high-temperature superconducting fine particles and/or high-temperature superconducting precursor fine particles on the conductive layer, and subjecting the first cylindrical ceramic substrate to a heat treatment to sinter the fine particles, thereby forming a first magnetic shield layer on the inner surface of the upper section of the first cylindrical ceramic substrate.

14. The method according to claim 13, wherein the conductive layer is formed by forming a conductive paste layer on a surface of the ceramic substrate and subjecting the conductive paste layer to a heat treatment.

15. The method according to claim 13, wherein the conductive layer is formed by plating a conductive material or vapor deposition of a conductive material.

16. The method according to claim 13, wherein the conductive layer contains silver as its main component.